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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant : James Phillip O'Reilly) Group Art Unit : 1761
Serial No. : 09/761,041) Examiner : Curtis Edward Sherrer
Filed : 01/16/2001)

For: BEVERAGE STABILISATION

1361 Alps Road
Wayne, NJ 07470

JANUARY 14, 2004

MAIL STOP APPEAL BRIEF – PATENTS
COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

Sir:

CORRECTED
BRIEF ON APPEAL

This Appeal Brief is submitted in response to the Examiner's communication mailed 12/02/2003 and to the Final Rejection of the Examiner mailed 06/04/03, and to the filing of our Notice of Appeal mailed on 08/21/03.

The Commissioner is hereby authorized to charge the fee of \$110.00 for an extension of time to reply to the Examiner's communication or to credit any overpayment to Deposit Account No. 07-0650. The fee for filing the Brief on Appeal has already been charged to our Deposit Account.

SERIAL NO. 09/761,041

1. REAL PARTY IN INTEREST

ISP INVESTMENTS INC., of 300 Delaware Avenue, Wilmington, Delaware 19801, is the owner of the entire right, title, and interest in the appealed application.

2. RELATED APPEALS AND INTERFERENCES

The parent application, Serial No. 08/412,037, filed 03/28/1995, was involved in an appeal, a decision having been rendered on November 29, 2000, Appeal No. 1997-3815, a copy of which is enclosed herein; which may have a bearing on the Board's decision in the instant appeal.

3. STATUS OF ALL CLAIMS

Claims 10, 12 and 13 are pending in the application and are appealed.

4. REFERENCES CITED

<u>U.S. PATENT</u>	<u>DATE</u>	<u>INVENTOR</u>	<u>CLASS/SUBCLASS</u>
4,910,182	3/1990	Hums et al	502/402
2,947,633	8/1960	Perry et al	426/442
4,166,141	8/1979	Westermann et al	426/422
<u>FOREIGN PATENT</u>	<u>DATE</u>	<u>COUNTRY</u>	<u>INVENTOR</u>
1,178,222	11/1984	CANADA	Chi et al

OTHER REFERENCES

H. Broderick, Ed., The Practical Brewer, MBAA, Madison, WI, 1977, p. 235

5. SUMMARY OF THE INVENTION

What is claimed herein is a continuous process in which the main flow (I8) of beer treated with PVPP particles of a selected specific size is continuously centrifuged (20) to remove at least 95% of the used PVPP therefrom in the form of a concentrated paste or slurry and to form a separate flow stream consisting of the main flow of stabilized beer (page 7 of the specification).

6. STATEMENT OF ISSUES PRESENTED

A. Claims 10-13 were rejected under '112 because the Examiner alleged that the phrases "continuous process", "periodically regenerating fresh PVPP" and "regenerated PVPP" (of step (e)) having a particle size of at least 10 μm are not found in the specification; and there is no antecedent basis for the phrase "the main flow", "suitable washing" or "particle sizes".

B. The Examiner alleged that Westermann is alleged to teach the chill stabilizing of a malt beverage whereby a vessel 1 contains PVPP having a size of about 1 mm and beer flows up through said vessel in a continuous fashion. The beer exits from through line 6 to a "wash station 7" that includes a solid-liquid separation device such as a filter or centrifuge. The PVPP concentrate then flows through line 10 to a regeneration stage 11 where the PVPP is washed with sodium hydroxide to remove the absorbed material. The regeneration station also contains a filtration device. This process removes proteinaceous material and tannins to eliminate the development of chill haze (col. 2, lines 15 to 68).

The Examiner further alleged that the claims "the main flow" rather than –a main flow—is not seen as further distinguishing the claims because the scope of the phrase is still broad.

7. GROUPING OF CLAIMS

Applicant respectfully asserts and maintains that the claims herein do not stand or fall together.

Claim 10 is the independent claim in the application; it includes a particle size of PVPP of at least 10 μm . Claim 12 is dependent thereon and is directed to a preferred embodiment wherein the particle size is between 50 and 100 μm , and, therefore, should be considered separate and apart from claim 10. Claim 13 also is dependent upon claim 10; it states that the viscous concentrate paste or slurry has a solids content of at least 25% by weight. Claim 12 defines the paste as having a solids content of 35 to 40%, and, accordingly, should be considered separately from claim 10.

8. THE ARGUMENT

A. Applicant respectfully traverses the Examiner with respect to the '112 rejection. Specifically, page 6, lines 10-13 of the specification states that "continuous operation through the use of a continuously running centrifuge delivering recovered PVPP at relatively high solids content to one of a plurality of filters". Also page 5, lines 1-9; page 10, lines 1-11, claim 3, lines 4-7 and page 2, lines 1-4, "PVPP may be periodically regenerated by contacting it with ..."; also page 5, lines 11-16, 16-19, and 26-28, states "a particle size of at least 10 μm ". Thus the specification and claims provide a basis for these terms. The claims have been amended herein to obviate the indefiniteness of certain phrases, in particular the antecedent basis for the main flow, suitable washing and particle sizes.

The claims recite a preferred PVPP particle size, i.e., 90% by weight of the PVPP particles have a particle size of at least 10 μm , and removal by centrifuging of at least 95% of the used PVPP from the treated beer in the form of a viscous paste or slurry thereby to form a separate flow stream consisting of the main flow stream of stabilized beer. Support for these limitations are found, e.g., on page 5, lines 16-18 and page 4, lines 1-4, of the instant specification.

The continuation application was filed on January 16, 2001 with a Simultaneous Amendment which cancelled original claims 1-9 while adding claims 10-13. In the Simultaneous Amendment, Applicant pointed out that claims 10-13 further defined the invention in view of the decision of the Board of Patent Appeals and Interferences mailed November 29, 2000. In particular, the Board decided the appeal on the basis of the interpretation of the claim language "a main flow of the beverage". For clarity, the instant claims now recite "the main flow [of said thus-treated beer]".

B. The instantly claimed process is believed to be patentable over Westermann for the following reasons. As urged by applicant and intimated by the Board, the process described by Westermann is conceptually and operationally totally different than applicant's claimed process.

The main pipeline flow of beer in Westermann is from inlet 4 to outlet 5 via fluidized bed vessel 1 in which it contacts PVPP. A small part of this main flow is continuously taken off through line 6 and passed into wash station 7 which may have a centrifuge in it. Either by filtration or centrifugation, beer from line 6 is returned to the main flow by line 9. That the means of separation in the wash cycle is optional illustrates that Westermann had not appreciated the advantages of using a centrifuge in the main high volume flow stream. In that context, there is no equivalence whatsoever between filtration and centrifugation, for the reasons given.

Westermann stated that due to lower mass velocity in the upper, large-diameter, section of the vessel 1 absorbent particles will not be carried from the vessel through the line 5. Westermann believed that he was dealing with a situation similar to that of a catalytic cracker where a fluidized bed is maintained by gases; in that situation the specific gravity of the particles is orders greater than that of the gas and they will hardly be carried over at all. Here it is inevitable that large amounts of particles will be carried over into the line 5 by the main flow of the beverage and it is inevitable that the principal mode of separation of those particles from the main flow will be filtration.

SERIAL NO. 09/761,041

In contrast, in applicant's continuous process, the main flow of beer treated with PVPP particles of a selected specific size is continuously centifuged to remove at least 95% of the used PVPP therefrom in the form of a concentrated paste or slurry, and to form a separate flow stream consisting of the main flow of stabilized beer. Accordingly, it is respectfully urged that Westermann does not fairly teach or suggest the claimed invention.

9. CONCLUSION

In view of the foregoing, Appellant respectfully believes that the claims as amended defines allowable subject matter and patentable invention over the cited art. Reversal and allowance of the claims in the application is respectfully solicited.

Respectfully submitted,



Dr. Walter Katz
Attorney for Appellant
Reg. No. 19,706
Tel. (973) 628-3528
Fax (973) 628-3620

Attachment – Decision on Appeal No. 1997-3815
In Serial No. 08/412,037 (parent Application)

THE APPEALED CLAIMS

Claim 10. A continuous process for stabilizing the main flow of bright beer which comprises:

- (a) treating the main flow of said beer with polyvinyl polypyrrolidone (PVPP), at least 90% by weight of which has a particle size of at least 10 μm , in an amount between 10 and 100 g/hl of said beer, to allow said PVPP to absorb polyphenolic material from said beer,
- (b) continuously centrifuging the main flow of said thus-treated beer to simultaneously (1) remove at least 95% of the used PVPP therefrom in the form of a viscous concentrate paste or slurry in a beer carrier having a solids content of at least 25% by weight, and (2) to form a separate flow stream consisting of the main flow of stabilized beer,
- (c) then collecting said used PVPP from said slurry by filtration,
- (d) periodically regenerating fresh PVPP from the thus-collected used PVPP by contacting it with alkali and, after washing,
- (e) recycling the regenerated PVPP for reuse in step (a).

Claim 12. A continuous process according to claim 10 wherein said particle size is between 50 and 100 μm .

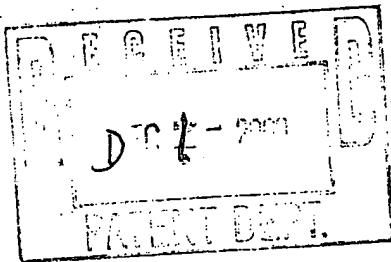
Claim 13. A continuous process according to claim 10 wherein said slurry has a solids content of 35 to 40%.



The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE



BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

MAILED

NOV 29 2000

Ex parte JAMES P. O'REILLY

PAT & TM OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Appeal No. 1997-3815
Application No. 08/412,037

ON BRIEF

Before JOHN D. SMITH, GARRIS, and DELMENDO, Administrative Patent Judges.

JOHN D. SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal pursuant to 35 U.S.C. § 134 from the final rejection of claims 4 through 12.

Claim 10 is representative and is reproduced below:

A method of treating a beverage which comprises:

(i) contacting a main stream of the beverage with polyvinyl polypyrrolidone to produce a mixture of beverage and polyvinyl polypyrrolidone,

Appeal No. 1997-3815
Application No. 08/412,037

(ii) subsequently centrifuging the entire mixture of beverage and polyvinyl polypyrrolidone to remove the polyvinyl polypyrrolidone therefrom and concentrate the removed polyvinyl polypyrrolidone in a second stream,

(iii) delivering said second stream containing the polyvinyl polypyrrolidone, which has been removed by centrifuging, to a filter, collecting polyvinyl polypyrrolidone from said second stream at the filter, periodically regenerating the collected polyvinyl polypyrrolidone by contact with alkali and then washing and recycling the regenerated polyvinyl polypyrrolidone.

The references of record relied upon by the examiner are:

Perry et al. (Perry)	2,947,633	Aug. 2, 1960
Westermann et al. (Westermann)	4,166,166	Aug. 28, 1979

Appealed claims 6 through 10 stand rejected under 35 U.S.C. § 102(b) as anticipated by Westermann.

Appealed claims 4, 5, and 11 stand rejected under 35 U.S.C. § 103 as unpatentable over Westermann.

Appealed claim 12 stands rejected under 35 U.S.C. § 103 as unpatentable over Westermann in view of Perry.

Since appellant indicates that the appealed rejected claims "stand or fall together" (brief, page 3), we decide this appeal on the basis of the rejection of appealed independent claim 10 as anticipated by Westermann.

We sustain the examiner's rejections.

The subject matter on appeal is directed to a method of treating a beverage, such as beer, which comprises contacting the

Appeal No. 1997-3815
Application No. 08/412,037

beverage with polyvinyl polypyrrolidone (PVPP) and subsequently centrifuging the beverage to remove the PVPP.

An important application of appellant's process is to stabilize beer and thus enhance its storage life. Typically, as set forth in appellant's specification at page 1, when beer is stored, colloidal particles form giving the beer a hazy appearance. This development of a colloidal haze is said to be caused by the presence of polyphenolic molecules in the beer. To retard the development of such haze, a conventional prior art treatment involves the addition of a small quantity of PVPP to the beer. The PVPP serves to absorb the polyphenolic materials and, after allowing contact for sufficient length of time, the PVPP with the absorbed polyphenolic materials, is removed from the beer. It is customary in typical prior art processes to remove the PVPP from the beer by means of a very large filtration vessel incorporating a stack of filters in the form of rotatable discs. See appellant's specification at page 2, lines 6 through 8. Appellant's invention is said to involve the appreciation that a number of advantages can be achieved in such a prior art process by the use of a centrifuge, instead of the very large filtration vessel used in commercial processes, for removal of the PVPP from a beverage. At page 6 of the

Appeal No. 1997-3815
Application No. 08/412,037

specification, appellant indicates that it is believed that the present invention will provide certain advantages as compared to the existing practice, which advantages include: 1) less capital cost through avoidance of large filtration vessels; 2) less requirement for space, again through avoidance of large filtration vessels; 3) a possibility of continuous operation through the use of continuously running centrifuge delivering recovered PVPP at relatively high solids content to one of a plurality of filters; and 4) reduced damage and size reduction of PVPP particles.

The above "background" prior art raises the question as to whether or not it would have been obvious to a person of ordinary skill in this art at the time of appellant's invention to utilize a centrifuge in place of the prior art filter systems. In any subsequent prosecution of this application, the examiner should raise and resolve this principal question of obviousness, e.g., by consideration of the teachings of Westerman at column 2, lines 53-57 and column 3, lines 3-5. However, the dispositive issue on appeal herein based on the examiner's anticipation rejection of appealed claim 10 in light of the Westermann disclosures involves a narrow question of claim interpretation. Specifically, appealed claim 10 requires the steps of contacting the beverage

Appeal No. 1997-3815
Application No. 08/412,037

with PVPP and, importantly, "subsequently centrifuging the beverage to remove the polyvinyl polypyrrolidone from a main flow of the beverage, and concentrate the removed polyvinyl polypyrrolidone in a second flow."

Like the claimed invention, Westermann describes a prior art method for stabilizing a beverage, such as beer, by contacting the beverage with PVPP. Westermann does this by passing the beer through a fluidized bed of PVPP. Importantly, as shown in Westermann's Figure and as described in the patent at column 1, lines 47 through 50 and column 2, lines 48 through 57, a portion of the fluidized bed which contains "residual beer" is continuously removed through a line 6, and this beer/PVPP stream is conducted to a wash station 7 which may include a centrifuge, where the residual beer is washed from the absorbent PVPP particles and wherein the absorbent PVPP particles are concentrated in a second flow which is delivered to a regeneration station 11.

Appellant contends that "the main stream" of Westerman's beer leaves vessel 1 through line 5, not through line 6 as asserted by the examiner. According to appellant, the stream exiting from vessel 1 through line 6 of Westermann is a

Appeal No. 1997-3815
Application No. 08/412,037

"side stream" which is used to remove only a portion of a mixture of PVPP and beer. Thus, appellant contends that the essence of the herein claimed invention is neither shown nor suggested by Westermann.

On the other hand, it is the examiner's position that when the relevant claim language in question, i.e., "subsequently centrifuging the beverage to remove the polyvinyl polypyrrolidone from a main flow of the beverage," is given its broadest reasonable interpretation consistent with the specification, appellant's claimed method "reads on" or covers the step in the prior art Westermann process wherein the beer/PVPP stream flows through line 6 for subsequent centrifuging at wash station 7. In short, it is the examiner's position that Westermann's beer/PVPP stream flowing through line 6 is "a main flow of the beverage" as called for by the language of the appealed method claim.

On this fundamental and dispositive issue on appeal, we agree with the examiner. First, as the examiner has pointed out Westermann does not expressly characterize stream 6, as a "concentrated slurry of PVPP and beer" as argued by appellant. Further, we point out that while appellant's specification refers to "the main flow" of a beverage, appellant's specification

Appeal No. 1997-3815
Application No. 08/412,037

contains no limiting definition as to what is "a main flow" of the beverage. Indeed the only "main flow" of a beverage in Westermann which includes the combination of beer and PVPP is found in line 6 of Westermann. In this regard, the flow in line 5 of Westermann apparently has no PVPP particles therein. Further, the only stream in the Westermann's process which is centrifuged to remove the PVPP from beer is the stream found in line 6.

In light of the above, we sustain the examiner's stated rejection of appealed claim 10 as anticipated by Westermann. Since the appealed claims "stand or fall together," we necessarily sustain the examiner's other prior art rejections.

The decision of the examiner is affirmed.

Appeal No. 1997-3815
Application No. 08/412,037

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

John D. Smith
JOHN D. SMITH)
Administrative Patent Judge)

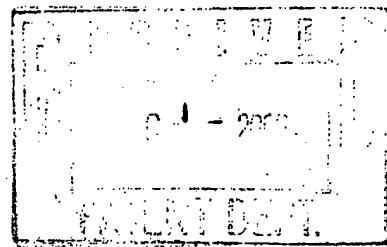
Bradley R. Garris)
BRADLEY R. GARRIS) BOARD OF PATENT
Administrative Patent Judge)

Romulo H. Delmendo)
ROMULO H. DELMENDO) APPEALS AND
Administrative Patent Judge) INTERFERENCES

JDS:lmb

Appeal No. 1997-3815
Application No. 08/412,037

INTERNATIONAL SPECIALTY PRODUCTS
1361 ALPS ROAD
LEGAL DEPARTMENT
BUILDING NO 10
WAYNE, NJ 07470



SERIAL NO. 09/761,041



THE APPENDIX

	<u>Page No.</u>
BRIEF ON APPEAL	1
1. REAL PARTY IN INTEREST	2
2. RELATED APPEALS AND INTERFERENCES	2
3. STATUS OF ALL CLAIMS	2
4. REFERENCES CITED	2
5. SUMMARY OF THE INVENTION	3
6. STATEMENT OF ISSUES PRESENTED	3
7. GROUPING OF CLAIMS	4
8. THE ARGUMENT	4-6
9. CONCLUSION	6
THE APPEALED CLAIMS	7

Attachment Decision on Appeal No. 1997-3815

In Serial No. 08/412,037 (Parent Application)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant : James Phillip O'Reilly) Group Art Unit : 1761
Serial No. : 09/761,041) Examiner : Curtis Edward Sherrer
Filed : 01/16/2001)

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CORRECTED
BRIEF ON APPEAL

This Appeal Brief is submitted in response to the Examiner's communication mailed 12/02/2003 and to the Final Rejection of the Examiner mailed 06/04/03, and to the filing of our Notice of Appeal mailed on 08/21/03.

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SERIAL NO. 09/761,041

1. REAL PARTY IN INTEREST

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3. STATUS OF ALL CLAIMS

Claims 10, 12 and 13 are pending in the application and are appealed.

4. REFERENCES CITED

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OTHER REFERENCES

H. Broderick, Ed., The Practical Brewer, MBAA, Madison, WI, 1977, p. 235

5. SUMMARY OF THE INVENTION

What is claimed herein is a continuous process in which the main flow (l8) of beer treated with PVPP particles of a selected specific size is continuously centrifuged (20) to remove at least 95% of the used PVPP therefrom in the form of a concentrated paste or slurry and to form a separate flow stream consisting of the main flow of stabilized beer (page 7 of the specification).

6. STATEMENT OF ISSUES PRESENTED

A. Claims 10-13 were rejected under '112 because the Examiner alleged that the phrases "continuous process", "periodically regenerating fresh PVPP" and "regenerated PVPP" (of step (e)) having a particle size of at least 10 μm are not found in the specification; and there is no antecedent basis for the phrase "the main flow", "suitable washing" or "particle sizes".

B. The Examiner alleged that Westermann is alleged to teach the chill stabilizing of a malt beverage whereby a vessel 1 contains PVPP having a size of about 1 mm and beer flows up through said vessel in a continuous fashion. The beer exits from through line 6 to a "wash station 7" that includes a solid-liquid separation device such as a filter or centrifuge. The PVPP concentrate then flows through line 10 to a regeneration stage 11 where the PVPP is washed with sodium hydroxide to remove the absorbed material. The regeneration station also contains a filtration device. This process removes proteinaceous material and tannins to eliminate the development of chill haze (col. 2, lines 15 to 68).

The Examiner further alleged that the claims "the main flow" rather than –a main flow—is not seen as further distinguishing the claims because the scope of the phrase is still broad.

7. GROUPING OF CLAIMS

Applicant respectfully asserts and maintains that the claims herein do not stand or fall together.

Claim 10 is the independent claim in the application; it includes a particle size of PVPP of at least 10 μm . Claim 12 is dependent thereon and is directed to a preferred embodiment wherein the particle size is between 50 and 100 μm , and, therefore, should be considered separate and apart from claim 10. Claim 13 also is dependent upon claim 10; it states that the viscous concentrate paste or slurry has a solids content of at least 25% by weight. Claim 12 defines the paste as having a solids content of 35 to 40%, and, accordingly, should be considered separately from claim 10.

8. THE ARGUMENT

A. Applicant respectfully traverses the Examiner with respect to the '112 rejection. Specifically, page 6, lines 10-13 of the specification states that "continuous operation through the use of a continuously running centrifuge delivering recovered PVPP at relatively high solids content to one of a plurality of filters". Also page 5, lines 1-9; page 10, lines 1-11, claim 3, lines 4-7 and page 2, lines 1-4, "PVPP may be periodically regenerated by contacting it with ..."; also page 5, lines 11-16, 16-19, and 26-28, states "a particle size of at least 10 μm ". Thus the specification and claims provide a basis for these terms. The claims have been amended herein to obviate the indefiniteness of certain phrases, in particular the antecedent basis for the main flow, suitable washing and particle sizes.

The claims recite a preferred PVPP particle size, i.e., 90% by weight of the PVPP particles have a particle size of at least 10 μm , and removal by centrifuging of at least 95% of the used PVPP from the treated beer in the form of a viscous paste or slurry thereby to form a separate flow stream consisting of the main flow stream of stabilized beer. Support for these limitations are found, e.g., on page 5, lines 16-18 and page 4, lines 1-4, of the instant specification.

The continuation application was filed on January 16, 2001 with a Simultaneous Amendment which cancelled original claims 1-9 while adding claims 10-13. In the Simultaneous Amendment, Applicant pointed out that claims 10-13 further defined the invention in view of the decision of the Board of Patent Appeals and Interferences mailed November 29, 2000. In particular, the Board decided the appeal on the basis of the interpretation of the claim language "a main flow of the beverage". For clarity, the instant claims now recite "the main flow [of said thus-treated beer]".

B. The instantly claimed process is believed to be patentable over Westermann for the following reasons. As urged by applicant and intimated by the Board, the process described by Westermann is conceptually and operationally totally different than applicant's claimed process.

The main pipeline flow of beer in Westermann is from inlet 4 to outlet 5 via fluidized bed vessel 1 in which it contacts PVPP. A small part of this main flow is continuously taken off through line 6 and passed into wash station 7 which may have a centrifuge in it. Either by filtration or centrifugation, beer from line 6 is returned to the main flow by line 9. That the means of separation in the wash cycle is optional illustrates that Westermann had not appreciated the advantages of using a centrifuge in the main high volume flow stream. In that context, there is no equivalence whatsoever between filtration and centrifugation, for the reasons given.

Westermann stated that due to lower mass velocity in the upper, large-diameter, section of the vessel 1 absorbent particles will not be carried from the vessel through the line 5. Westermann believed that he was dealing with a situation similar to that of a catalytic cracker where a fluidized bed is maintained by gases; in that situation the specific gravity of the particles is orders greater than that of the gas and they will hardly be carried over at all. Here it is inevitable that large amounts of particles will be carried over into the line 5 by the main flow of the beverage and it is inevitable that the principal mode of separation of those particles from the main flow will be filtration.

In contrast, in applicant's continuous process, the main flow of beer treated with PVPP particles of a selected specific size is continuously centrifuged to remove at least 95% of the used PVPP therefrom in the form of a concentrated paste or slurry, and to form a separate flow stream consisting of the main flow of stabilized beer. Accordingly, it is respectfully urged that Westermann does not fairly teach or suggest the claimed invention.

9. CONCLUSION

In view of the foregoing, Appellant respectfully believes that the claims as amended defines allowable subject matter and patentable invention over the cited art. Reversal and allowance of the claims in the application is respectfully solicited.

Respectfully submitted,



Dr. Walter Katz
Attorney for Appellant
Reg. No. 19,706
Tel. (973) 628-3528
Fax (973) 628-3620

Attachment – Decision on Appeal No. 1997-3815
In Serial No. 08/412,037 (parent Application)

THE APPEALED CLAIMS

Claim 10. A continuous process for stabilizing the main flow of bright beer which comprises:

- (a) treating the main flow of said beer with polyvinyl polypyrrolidone (PVPP), at least 90% by weight of which has a particle size of at least 10 μm , in an amount between 10 and 100 g/hl of said beer, to allow said PVPP to absorb polyphenolic material from said beer,
- (b) continuously centrifuging the main flow of said thus-treated beer to simultaneously (1) remove at least 95% of the used PVPP therefrom in the form of a viscous concentrate paste or slurry in a beer carrier having a solids content of at least 25% by weight, and (2) to form a separate flow stream consisting of the main flow of stabilized beer,
- (c) then collecting said used PVPP from said slurry by filtration,
- (d) periodically regenerating fresh PVPP from the thus-collected used PVPP by contacting it with alkali and, after washing,
- (e) recycling the regenerated PVPP for reuse in step (a).

Claim 12. A continuous process according to claim 10 wherein said particle size is between 50 and 100 μm .

Claim 13. A continuous process according to claim 10 wherein said slurry has a solids content of 35 to 40%.

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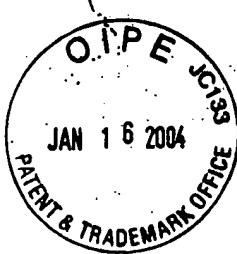


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	<u>Page No.</u>
BRIEF ON APPEAL	1
1. REAL PARTY IN INTEREST	2
2. RELATED APPEALS AND INTERFERENCES	2
3. STATUS OF ALL CLAIMS	2
4. REFERENCES CITED	2
5. SUMMARY OF THE INVENTION	3
6. STATEMENT OF ISSUES PRESENTED	3
7. GROUPING OF CLAIMS	4
8. THE ARGUMENT	4-6
9. CONCLUSION	6
THE APPEALED CLAIMS	7

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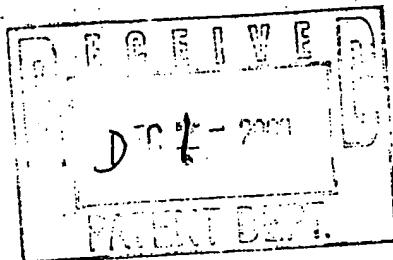
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AND INTERFERENCES

ON BRIEF

Before JOHN D. SMITH, GARRIS, and DELMENDO, Administrative Patent Judges.

JOHN D. SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal pursuant to 35 U.S.C. § 134 from the final rejection of claims 4 through 12.

Claim 10 is representative and is reproduced below:

A method of treating a beverage which comprises:

(i) contacting a main stream of the beverage with polyvinyl polypyrrolidone to produce a mixture of beverage and polyvinyl polypyrrolidone,

Appeal No. 1997-3815
Application No. 08/412,037

(ii) subsequently centrifuging the entire mixture of beverage and polyvinyl polypyrrolidone to remove the polyvinyl polypyrrolidone therefrom and concentrate the removed polyvinyl polypyrrolidone in a second stream,

(iii) delivering said second stream containing the polyvinyl polypyrrolidone, which has been removed by centrifuging, to a filter, collecting polyvinyl polypyrrolidone from said second stream at the filter, periodically regenerating the collected polyvinyl polypyrrolidone by contact with alkali and then washing and recycling the regenerated polyvinyl polypyrrolidone.

The references of record relied upon by the examiner are:

Perry et al. (Perry)	2,947,633	Aug. 2, 1960
Westermann et al. (Westermann)	4,166,166	Aug. 28, 1979

Appealed claims 6 through 10 stand rejected under 35 U.S.C. § 102(b) as anticipated by Westermann.

Appealed claims 4, 5, and 11 stand rejected under 35 U.S.C. § 103 as unpatentable over Westermann.

Appealed claim 12 stands rejected under 35 U.S.C. § 103 as unpatentable over Westermann in view of Perry.

Since appellant indicates that the appealed rejected claims "stand or fall together" (brief, page 3), we decide this appeal on the basis of the rejection of appealed independent claim 10 as anticipated by Westermann.

We sustain the examiner's rejections.

The subject matter on appeal is directed to a method of treating a beverage, such as beer, which comprises contacting the

Appeal No. 1997-3815
Application No. 08/412,037

beverage with polyvinyl polypyrrolidone (PVPP) and subsequently centrifuging the beverage to remove the PVPP.

An important application of appellant's process is to stabilize beer and thus enhance its storage life. Typically, as set forth in appellant's specification at page 1, when beer is stored, colloidal particles form giving the beer a hazy appearance. This development of a colloidal haze is said to be caused by the presence of polyphenolic molecules in the beer. To retard the development of such haze, a conventional prior art treatment involves the addition of a small quantity of PVPP to the beer. The PVPP serves to absorb the polyphenolic materials and, after allowing contact for sufficient length of time, the PVPP with the absorbed polyphenolic materials, is removed from the beer. It is customary in typical prior art processes to remove the PVPP from the beer by means of a very large filtration vessel incorporating a stack of filters in the form of rotatable discs. See appellant's specification at page 2, lines 6 through 8. Appellant's invention is said to involve the appreciation that a number of advantages can be achieved in such a prior art process by the use of a centrifuge, instead of the very large filtration vessel used in commercial processes, for removal of the PVPP from a beverage. At page 6 of the

Appeal No. 1997-3815
Application No. 08/412,037

specification, appellant indicates that it is believed that the present invention will provide certain advantages as compared to the existing practice, which advantages include: 1) less capital cost through avoidance of large filtration vessels; 2) less requirement for space, again through avoidance of large filtration vessels; 3) a possibility of continuous operation through the use of continuously running centrifuge delivering recovered PVPP at relatively high solids content to one of a plurality of filters; and 4) reduced damage and size reduction of PVPP particles.

The above "background" prior art raises the question as to whether or not it would have been obvious to a person of ordinary skill in this art at the time of appellant's invention to utilize a centrifuge in place of the prior art filter systems. In any subsequent prosecution of this application, the examiner should raise and resolve this principal question of obviousness, e.g., by consideration of the teachings of Westerman at column 2, lines 53-57 and column 3, lines 3-5. However, the dispositive issue on appeal herein based on the examiner's anticipation rejection of appealed claim 10 in light of the Westermann disclosures involves a narrow question of claim interpretation. Specifically, appealed claim 10 requires the steps of contacting the beverage

Appeal No. 1997-3815
Application No. 08/412,037

with PVPP and, importantly, "subsequently centrifuging the beverage to remove the polyvinyl polypyrrolidone from a main flow of the beverage, and concentrate the removed polyvinyl polypyrrolidone in a second flow."

Like the claimed invention, Westermann describes a prior art method for stabilizing a beverage, such as beer, by contacting the beverage with PVPP. Westermann does this by passing the beer through a fluidized bed of PVPP. Importantly, as shown in Westermann's Figure and as described in the patent at column 1, lines 47 through 50 and column 2, lines 48 through 57, a portion of the fluidized bed which contains "residual beer" is continuously removed through a line 6, and this beer/PVPP stream is conducted to a wash station 7 which may include a centrifuge, where the residual beer is washed from the absorbent PVPP particles and wherein the absorbent PVPP particles are concentrated in a second flow which is delivered to a regeneration station 11.

Appellant contends that "the main stream" of Westerman's beer leaves vessel 1 through line 5, not through line 6 as asserted by the examiner. According to appellant, the stream exiting from vessel 1 through line 6 of Westermann is a

Appeal No. 1997-3815

Application No. 08/412,037

"side stream" which is used to remove only a portion of a mixture of PVPP and beer. Thus, appellant contends that the essence of the herein claimed invention is neither shown nor suggested by Westermann.

On the other hand, it is the examiner's position that when the relevant claim language in question, i.e., "subsequently centrifuging the beverage to remove the polyvinyl polypyrrrolidone from a main flow of the beverage," is given its broadest reasonable interpretation consistent with the specification, appellant's claimed method "reads on" or covers the step in the prior art Westermann process wherein the beer/PVPP stream flows through line 6 for subsequent centrifuging at wash station 7. In short, it is the examiner's position that Westermann's beer/PVPP stream flowing through line 6 is "a main flow of the beverage" as called for by the language of the appealed method claim.

On this fundamental and dispositive issue on appeal, we agree with the examiner. First, as the examiner has pointed out Westermann does not expressly characterize stream 6, as a "concentrated slurry of PVPP and beer" as argued by appellant. Further, we point out that while appellant's specification refers to "the main flow" of a beverage, appellant's specification

Appeal No. 1997-3815
Application No. 08/412,037

contains no limiting definition as to what is "a main flow" of the beverage. Indeed the only "main flow" of a beverage in Westermann which includes the combination of beer and PVPP is found in line 6 of Westermann. In this regard, the flow in line 5 of Westermann apparently has no PVPP particles therein. Further, the only stream in the Westermann's process which is centrifuged to remove the PVPP from beer is the stream found in line 6.

In light of the above, we sustain the examiner's stated rejection of appealed claim 10 as anticipated by Westermann. Since the appealed claims "stand or fall together," we necessarily sustain the examiner's other prior art rejections.

The decision of the examiner is affirmed.

Appeal No. 1997-3815
Application No. 08/412,037

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

John D. Smith
JOHN D. SMITH
Administrative Patent Judge

Bradley R. Garris
BRADLEY R. GARRIS
Administrative Patent Judge

Romulo H. Delmendo
ROMULO H. DELMENDO
Administrative Patent Judge

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Appeal No. 1997-3815
Application No. 08/412,037

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